

ANNUAL SUMMARY OF THE SOUTHERN PINE BEETLE  
CONTROL PROJECT IN TEXAS - 1967

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INTRODUCTION

Each year since 1958 annual reports of the southern pine beetle control project have been issued to serve as a record of the activities of the past season. This report summarizes the detection, evaluation, and control operations completed during 1967.

Timber landowners of southeast Texas have been plagued by southern pine beetle epidemics for many years. The most recent outbreak began in 1957, following six years of negligible beetle activity. It reached its peak in 1962 when 23,538,100 cubic feet of timber was killed over a 4,500,000 acre area. The 1967 outbreak was a replay of the past two years with many small infestations to control. Approximately 1,818,000 cubic feet of timber was killed by the pest of which 40 percent was utilized. An estimated total of 1362 acres of pine was killed in 1967 which brings the combined total of pine timber acreage killed since the epidemic commenced in 1957 to 49,753.

The first southern pine beetle infestations in 1967 were detected during the January evaluation survey. Operational bi-weekly detection flights commenced in mid-March after a single flight in February. Attempts were made to control all single-and multiple-tree spots through May, at which time numerous multiple-tree spots demanded the entire efforts of the control force. The Texas Forest Pest Law continued to be of value in removing the hazard of allowing many spots to remain uncontrolled; 75 spots were controlled under the provision of this law.

Expenditures for southern pine beetle control in 1967 by cooperators totalled \$191,591.11. These expenditures are itemized by landowner in the Appendix. Costs expended by the Texas Forest Service, U. S. Forest Service and landowners who did not report their monetary losses are not included.

CHRONICLE OF 1967 EVENTS

January 9-27 - An operations recorder survey to evaluate the population level of the southern pine beetle was completed by the Texas Forest Service (1). The number of southern pine beetle infested trees per thousand acres was found to be 4.0 and higher than any January since the survey started in the summer of 1963.

February 10 - The Sub-Committee on Field Control of the Texas Forest Pest Committee met for the first of ten monthly conferences throughout 1967 to discuss developments in the southern pine beetle control project and other forest pest situations.

February 13 - Detection flights for southern pine beetle outbreaks began over southeast Texas by forest industry cooperators and the Texas Forest Service. A single flight was made in February but biweekly flights were the rule from mid-March to mid-October.

April 15 - The first quadrangles of the new Texas Forest Service maps for use in the southern pine beetle control project were issued to cover most of Jasper and Newton Counties. New quadrangle maps for most of the infested area in TFS District #6 headquartered in Conroe were made available before years end.

July 15 - Construction was completed on the new Forest Pest Control building of the Texas Forest Service. The building was designed to offer improved facilities for the Service forest entomologist and forest pathologist.

September 1 - Leroy Williamson resigned his position as Head, Forest Pest Control Section to return to Texas A & M University in quest of a Ph. D. degree. Max M. Ollieu was promoted to fill the vacancy and Garland Mason joined the staff to fill the Entomologist opening.

November 15 - The last known southern pine beetle infestation was controlled. Throughout the calendar year, there were 1991 southern pine beetle infestations controlled which contained 93,387 trees.

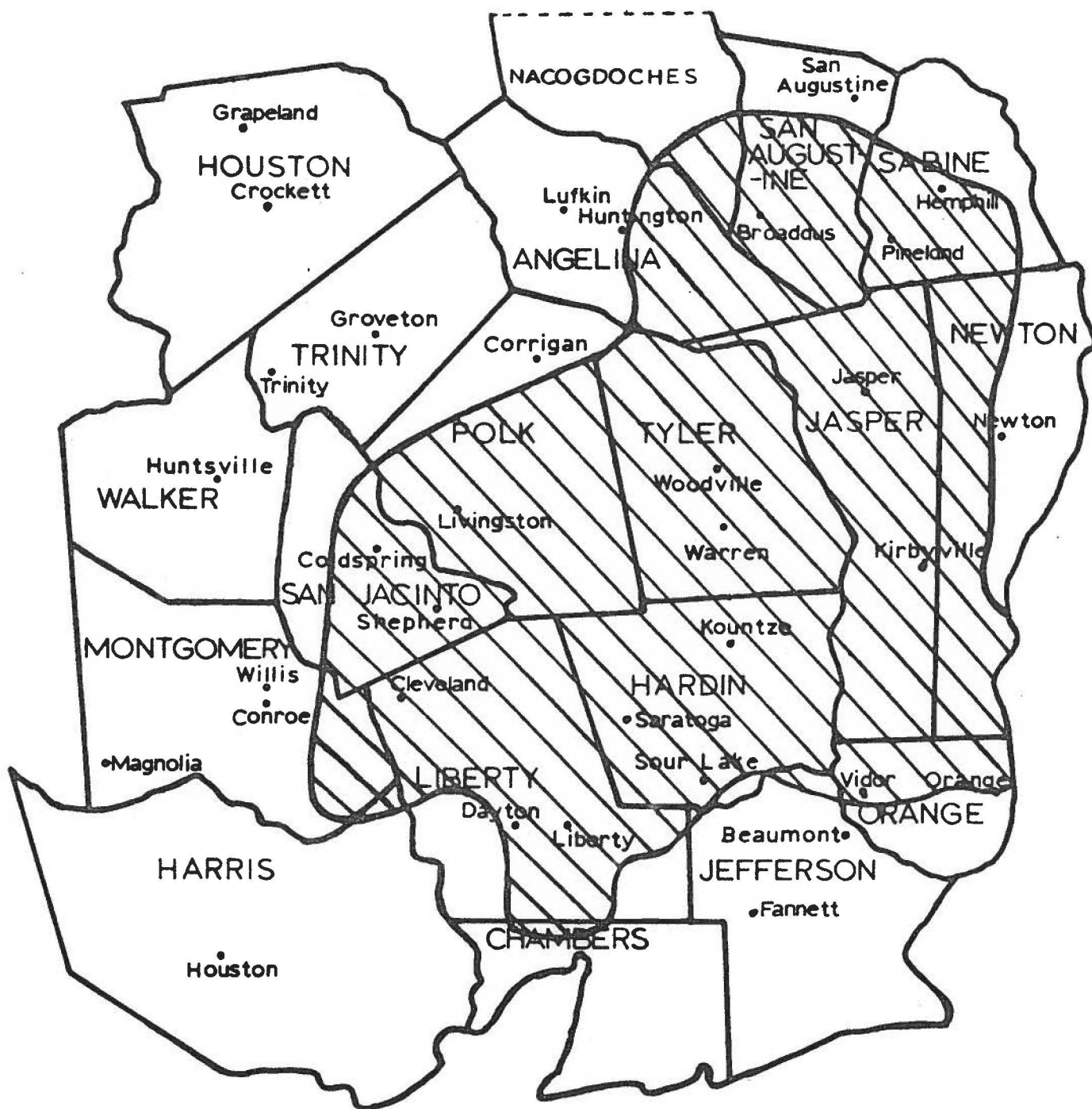
# DETECTION

Detection activities in 1967 were conducted in a manner similar to that of previous years. The Texas Forest Service and forest industrial cooperators made detection flights over the 4.5 million acre outbreak area at 1500 feet altitude and 100 miles per hour. Flights were made in single-engine, high-wing Cessna aircraft on flight lines of  $2\frac{1}{2}$  mile spacing. The standard detection crew was made up of a pilot, a tracker, and two observers. The observers were obligated to record all multiple-tree (5 trees and over) spots in a  $1\frac{1}{4}$  mile strip on either side of the plane.

The first detection flight was in February, at which time 51 southern pine beetle spots were detected. As beetle incidence increased biweekly flights began and continued through October, when the beetle population dwindled to its usual low fall level.

The southern pine beetle infested area of Texas expanded deeper into northern Newton and southern Sabine Counties (Figure 1). Nacogdoches County experienced its first outbreak on record and Harris County hosted several infestations for the first time since 1962. The extension of the outbreak into Trinity County in 1966 was absent in 1967.

Monthly totals of spots detected during 1967 are shown in Table 1 below. Although single trees were reported to landowners for a period of time, only multiple-tree spots were recorded by the Texas Forest Service. The number of spots reported for January came from a sample survey made over 2,000,000 acres; complete aerial coverage of the area was not made until mid-February.



## SOUTHEAST TEXAS



LEGEND

Infestation area

1967

Figure 1. Southern Pine Beetle Infestation Area in Southeast Texas - 1967.

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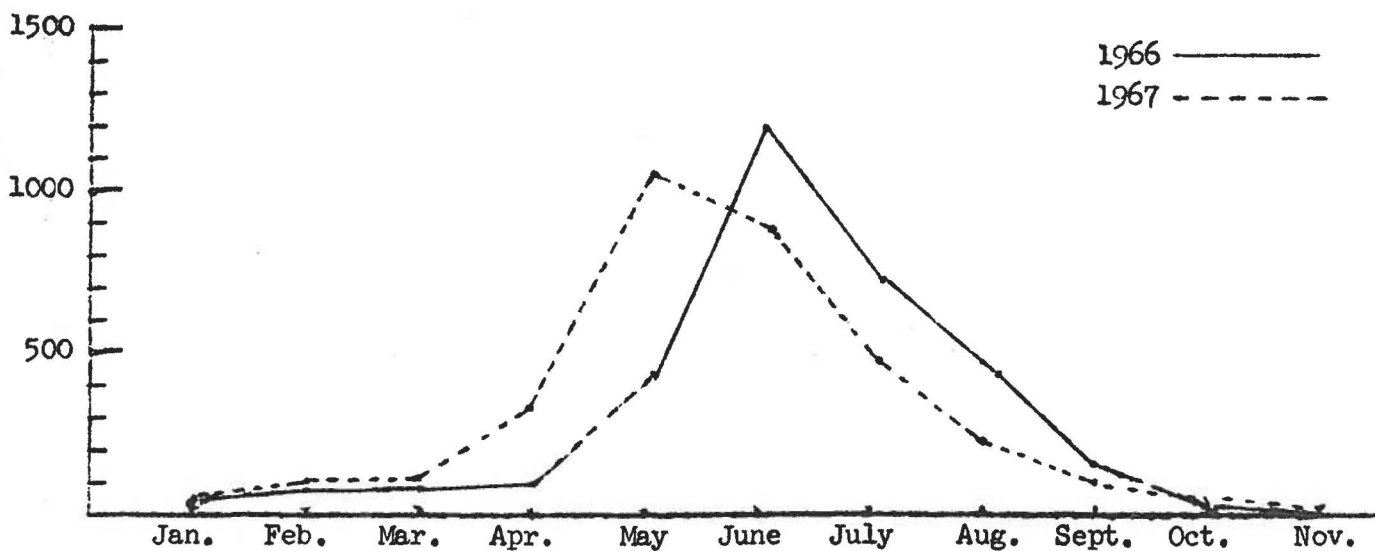
Table 1. Spots Detected by Aerial Observation, 1967.

Month	New Spots Detected
January	12*
February	70
March	93
April	336
May	1009
June	869
July	475
August	223
September	103
October	31
November	0
December	0
<b>TOTAL</b>	<b>3221</b>

\* Spots detected during the January evaluation survey.

Mid-summer population buildup occurred at an earlier date in 1967 than 1966. Buildup rate and subsequent population levels are compared graphically in Figure 2.

Figure 2. Newly Detected Spots by Month for 1966 - 1967.



Spots detected by the National Forests of Texas are not included in the above information. The Angelina, Sam Houston, and Yellowpine Districts all found southern pine beetle infestations.

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CONTROL

Control of the southern pine beetle commenced in February of 1967 on infestations found during the January evaluation survey. An effort was also made by forest industry, state and federal crews to locate and chemically treat green infested trees during February and March. Control continued through the summer and fall with all known outbreaks being suppressed by November 15. The Texas Forest Service records show 1991 southern pine beetle spots controlled which contained 93,387 trees for an average of 47 trees per spot. These figures do not reflect many outbreaks which landowners detected and controlled themselves. Information from the National Forests in Texas is also not included. Year end reports from all landowners, however, indicate approximately 133,000 trees were actually cut and chemically treated and/or utilized because of southern pine beetle damage.

The Texas Forest Pest Law was used in 1967 for the third straight year to stop southern pine beetle infestations which landowners failed to suppress. Control crews of the Texas Forest Service chemically treated 75 infestations upon which authorization for control was prescribed by the law. Landowners reimbursed the Texas Forest Service for full cost of control on another 311 beetle outbreaks. Spots controlled by the Texas Forest Service on landowners with less than 50 forested acres in the county exempted the landowner from charges: 72 of these infestations were controlled. The grand total of spots controlled by the Texas Forest Service therefore totalled 458.

Chemical control as in past years remained two gallons of 11% gamma isomer BHC per fifty gallons of number 2 fuel oil.

Project Personnel

Reports from all landowners involved in the southern pine beetle control project show approximately 300 persons involved including supervisors and chemical control crews. The pulpwood crews used to harvest beetle killed timber are in addition to this total; their recognition would boost the number another 100 for a total of 400.

During 1967, for the first time, Texas Forest Service fire control crewleaders and crewmen were assigned forest pest control duties. They were used as ground checkers and control crews. These experienced woodsmen greatly increased the efficiency of the whole control operation and contributed to the reduction in lost time accidents.

The safety record of the control project in 1967 improved over the 12 accident reports, including one fatality, of 1966. There were 7 lost time accidents in 1967 of which the most serious was a broken ankle. The others involved a shoulder-neck bruise, a knee-joint injury, an eye injury, skin irritation from BHC and fuel oil, and injury from slipping on sprayed logs.

### Volume of Timber Killed

The volume of timber killed by the southern pine beetle increased slightly in 1967, above that for 1966. Sawtimber rose to 7,194 M bd. ft. from 6,256 M bd. ft. in 1966 whereas beetle infested pulpwood rose to 8,566 cords from 6,930 cords in 1966 (Table 2). The portion of timber volume utilized fell again in 1967 to 40 percent of the volume killed from 53 percent in 1966. Reports show 3,115 M bd. ft. of sawtimber and 2881 cords of wood utilized. Total acres of pine timber destroyed during the year reached 1,362 which subsequently pushed the cumulative total of pine timber lost since 1957 to 49,753 acres.

Table 2. Volume of Pine Timber Killed by the Southern Pine Beetle in Southeast Texas in 1967.

Year	Sawlogs (M bd. ft.)	Pulpwood (cords.)	Total (M cu. ft.)*
1958	500	0	84
1959	2,500	2,500	598
1960	8,000	8,000	1,912
1961	17,887	24,000	4,715
1962	93,043	111,110	23,538
1963	4,084	1,920	820
1964	2,501	1,420	520
1965	3,797	7,743	1,192
1966	6,256	6,930	1,544
1967	7,194	8,566	1,818
GRAND TOTAL	145,762	172,189	36,741

\* Conversion factors: 167 cu. ft./M bd. ft. and 72 cu. ft./cd.

The magnitude and fluctuation of timber volume killed each year by the southern pine beetle as given in Table 2 is graphically depicted in Figure 3. ....

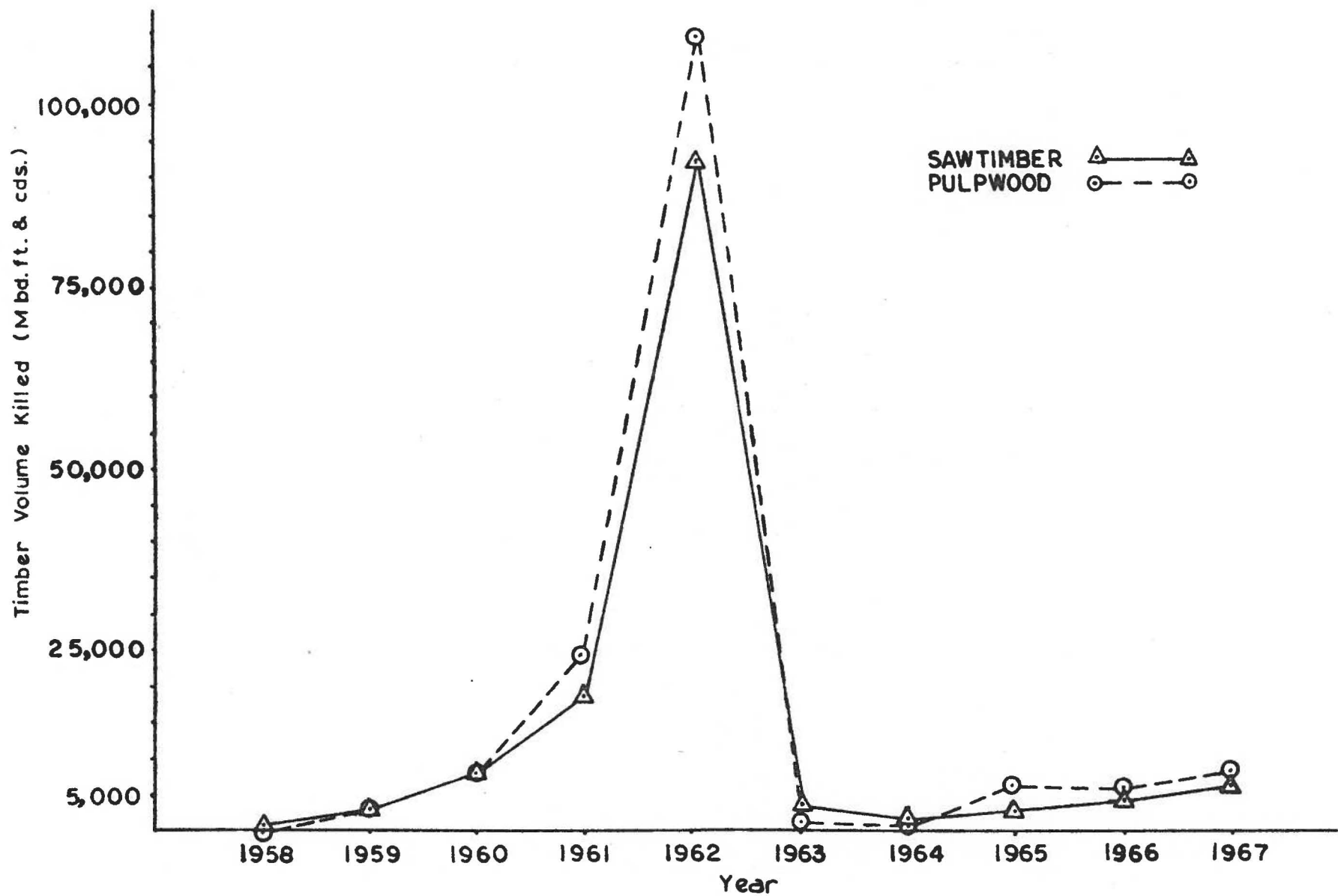


Figure 3. Annual Timber Volume Killed by Southern Pine Beetle in East Texas.



## SUMMARY

The southern pine beetle control project closely followed the pattern of the previous year as forecast by the January evaluation survey. Infestations were first detected in January. Regular detection flights and ground detection aided in location of single-tree infestations until May when multiple-tree infestations became numerous. The highest number of spots was detected during the last week of May with the normal decline thereafter. The last known outbreak was suppressed by November 15. Year end reports showed 133,000 trees were chemically treated and/or utilized because of southern pine beetle attack.

Steps forward in forest pest control were exemplified by the completion of the new Forest Pest Control building in Lufkin and the dissemination of new southeast Texas maps. The new maps were designed especially for the convenience of aerial observers, ground checkers and control crews involved in the southern pine beetle control project. The availability has been enthusiastically received.

LITERATURE CITED

1. Williamson, D. L. and M. M. Ollieu. 1967. Aerial Survey of Southern Pine Beetle Infestations in Southeast Texas. Unpublished January Report. Forest Pest Control Section, Texas Forest Service, Lufkin, Texas.

## APPENDIX

## SOUTHERN PINE BEETLE CONTROL EXPENDITURES

January 1, 1967 - December 31, 1968

## COOPERATOR

## EXPENDITURES REPORTED

C. N. Adams Estate	\$ 10.33
Mrs. Joada Allums	132.32
Alabama-Coushatta Indian Reservation	1,254.33
E. G. Anderson	19.60
R. Malcolm Barnes	114.20
Dr. R. B. Barclay	16.64
G. D. Baten	6.43
W. F. (Floyd) Berryman	112.00
Big Thicket Lake Estates	36.40
E. E. Biscamp	25.90
Mary Henderson Boggs	32.45
Charles F. Butler	35.82
W. T. Carter & Bros.	20,733.74
L. Cartwright Production Co.	262.80
Champion Papers	12,229.14
Mrs. Allen Chance	19.80
Mrs. R. R. Childers	27.80
Roy Clamon	212.75
C. L. Cochran	289.04
E. E. Cochran	80.48
N. A. Cravens	33.12
T. P. Crews	353.30
Horace L. David	334.20
Jeremy S. Davis	1,155.79
Wirt-Davis Estate	6,231.86
Ealand-Wood Land Co.	1,617.75
E. W. Easterling	220.00
Feagin & Tubb	41.92
Mrs. D. H. Felder	16.80
First Natl. Bk. of Marshall Trustees (Mary E. Nundorff)	15.90
D. G. Ford	99.30
Wm. B. Fullen	5.00
W. C. Gilbert Estate	35.83
E. B. Gillen Estate	15.20
Cecil R. Glass	23.47
John B. Gordon	17.60
Mrs. B. G. Graham	21.14
C. F. Graham	21.12
Mrs. Charles R. Haley	263.75
Eugene Hawkins	42.45
J. E. Hines	87.00
Frank A. Howell	41.60
International Paper Co.	12,179.06
Tom R. Jones	210.00
L. V. Jordan	40.20
K. W. Kennedy	78.10
Kirby Lumber Corp.	23,957.55
George P. Kirkpatrick	312.88
Mary E. Koza	30.50

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W. W. Lester	\$ 83.25
R. S. Lewis & Lucille L. Nicklas	12.83
Mary H. Lin	50.00
Charles P. Little, et al	726.74
Mrs. Grover C. Lowe	45.75
Lutcher & Moore Lbr. Co.	7,372.00
E. C. Matthews	301.40
Sue Matthews	78.40
Mrs. W. B. McBride	52.15
Johnnie McLeod	35.68
J. W. Milner	11.60
Ralph H. Minchen, et al	41.45
Mand O. Timber Co.	112.55
Moss-American Inc.	1,847.23
Newton Lumber Co.	95.62
Nona Mills Co.	1,755.16
E. C. Oates, Jr.	103.00
Babette M. Odom	34.00
Mrs. O. O. Overstreet	35.00
Owens-Illinois, Inc.	41,519.85
K. G. & A. W. Pebbles	16.64
Scott Petty, Jr.	11.75
Durham Pickle	115.37
Pearl Platt	49.58
T. W. Prescott	84.48
B. E. Quinn Estate	1,383.21
P. A. Racki Lumber Co., Inc.	3,712.78
A. B. Rhodes	20.33
Rice University	453.60
Forrest E. Richey	31.00
Alf Roark	83.50
Roy Seaberg	130.50
Dr. M. M. Self	40.40
H. B. Shepherd	701.45
Albert Sims	193.89
Southland Paper Mills, Inc.	14,850.12
Southwestern Timber Co.	19,703.10
Mrs. Verna Standley	73.52
H. L. Stone	83.60
Sun Pipe Line Co.	849.64
Mrs. George D. Taylor	3.16
Temple Industries, Inc.	10,638.74
Texaco, Inc.	73.10
T. T. Thornton	19.40
Mrs. Virginia Truitt	188.85
Fannie Turner	49.30
Bertie Walker	51.18
Marie Weir, et al	55.60
G. O. Weisinger	172.48
James E. Wheat, Jr.	41.20
J. L. C. White, Estate	103.40
W. J. Williams	138.22
GRAND TOTAL	\$ 191,591.11